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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,831	07/30/2002	Paul Sage	063511/9052	2269

23409 7590 04/26/2004

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EXAMINER

CHARIOUI, MOHAMED

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/088,831	SAGE, PAUL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mohamed Charioui	2857	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-9,11-38 and 43-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 33-35 is/are rejected.
- 7) ☒ Claim(s) 1-3,5-9,11-32, 36-38 and 43-60 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant cancelled claims 4, 10 and 39-42.

#### Abstract

2. The abstract of the disclosure is objected to because the abstract of the disclosure needs to commence in a separate page. Correction is required. See MPEP § 608.01(b).

#### Claim Objections

3. **Claims 1-3, 5-9, 11-23, 36-38 and 43-52** are objected to because of the following informalities: in page 2, line 7, of the amendment change “optimising” to – optimizing--. Appropriate correction is required.

**Claims 11-15** are objected to because of the following informalities: in page 4, line 3, of the amendment change “optimisation” to –optimization--. Appropriate correction is required.

**Claim 13** is objected to because of the following informalities: in page 31, line 24, “the following operations;” to – the following operations:--. Appropriate correction is required.

**Claim 18** is objected to because of the following informalities: in page 5, line 4, of the amendment change “modelled” to –modeled--. Appropriate correction is required.

**Claim 21** is objected to because of the following informalities: in page 5, line 6, of the amendment change “modelled” to –modeled--. Appropriate correction is required.

**Claim 26** is objected to because of the following informalities: in page 6, line 13, of the amendment change “modelled” to –modeled--. Appropriate correction is required.

**Claims 29-35 and 58-60** are objected to because of the following informalities:

In page 7, line 5, of the amendment change "totalling" to --totaling--.

In page 7, line 7, of the amendment change "localised" to --localized--.

Appropriate correction is required.

**Claim 45** is objected to because of the following informalities: in page 10, line 17, of the amendment change "modelled" to --modeled--. Appropriate correction is required.

**Claims 48-52** are objected to because of the following informalities:

In page 11, line 10, of the amendment change "totalling" to --totaling--.

In page 11, line 12, of the amendment change "localised" to --localized--.

Appropriate correction is required.

**Claims 53 and 54** are objected to because claim 53 is not an independent claim, yet it depends of itself. Appropriate correction is required.

Examiner sees that claim 53 further limits claim 52. For examination, Examiner considers that claim 53 depends of claim 52.

**Claims 24-28 and 55-57** are objected because of the following informalities: in page 5, line 23, change "considered to more hydraulically significant" to --considered to be more hydraulically significant--. Appropriate correction is required.

**Claims 43-47** are objected because of the following informalities: in page 10, line 11, change "considered to more hydraulically significant" to --considered to be more hydraulically significant--. Appropriate correction is required.

**Claim 18** is objected because of the following informalities:

Claim 18 recites the limitation "the network modeled" in page 5, line 4 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

**Claims 21 and 22** are objected because of the following informalities:

Claim 21 recites the limitation "the network modeled" in page 5, line 11 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

**Claims 29-35 and 58-60** are objected because of the following informalities: in page 7, line 6, change "the peak flow for the whole network" to --the peak flow rate demands for the whole network--. Appropriate correction is required.

**Claims 30-35** are objected because of the following informalities: in page 7, lines 13-14, change "the local peak demand flow" to -- the local peak flow demand--. Appropriate correction is required.

**Claims 30-35** are objected because of the following informalities:

Claim 30 recites the limitation "the determination of the local peak flow demand" in page 7, line 14 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

**Claims 30-35** are objected because of the following informalities:

Claim 30 recites the limitation "the peak flow time" in page 8, line 5 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

**Claims 30-35** are objected because of the following informalities:

Claim 30 recites the limitation "the local demand" in page 8, line 13 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

**Claims 31 and 32** are objected because of the following informalities:

Claim 31 recites the limitation "the relative demand" in page 8, line 17 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

**Claim 32** is objected because of the following informalities:

Claim 32 recites the limitation "the direct local peak demand" in page 8, lines 21 and 23 of the amendment. There is insufficient antecedent basis for this limitation in the claim.

**Claims 33-35** are objected because of the following informalities:

In page 1, line 4, change "according to claims 30" to --according to claim 30--.

In page 9, line 6, change "giving a branch through flow demand" to --associating a branch through flow demand--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 33-35** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 33, "which that pipe is a part to arrive at the network peak demand for that pipe" is unclear.

***Allowable Subject Matter***

4. The following is a statement of reasons for the indication of allowable subject matter:

**Regarding claims 1-3, 5-9, 11-23, 36-38 and 43-52,** none of the prior art of record teaches or suggests proposing a modification to the selected pipe which provides an incremental improvement in the criteria; performing a network analysis of at least one predetermined operating parameter of the network to predict whether a predefined operating limit of the operating parameter will be violated as a result of the modification; if the network analysis predicts a violation of the predefined operating limit, then rejecting the proposed modification and removing the respective pipe from consideration for any further modification, in combination with the rest of the claim limitations.

**Regarding claims 24-28 and 55-57,** none of the prior art of record teaches or suggests counting the number of instances of each pipe occurring in a flow path between a source node defined by the network model and the boundary of the network model, and using the instance count for each pipe as the indication of the hydraulic significance of that pipe within the network, such that pipes with a higher instance count are considered to be more hydraulically significant than pipes with a lower instance count, in combination the rest of the claim limitations.

**Regarding claims 29-32 and 58-60,** none of the prior art of record teaches or suggests deriving a local peak flow demand representative of the localized demand on each pipe of the network and combining the network peak flow demand with the local peak flow demand to arrive at a peak flow rate demand for each pipe in the network, in combination the rest of the claim limitations.

**Prior art**

5. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

**Wakamori et al. ['182]** disclose method of estimating fracture point of pipe line network.

**Martin ['687]** discloses method for optimized management of a system of pipelines and pipeline system realization in accordance with the method.

**Kondo et al. ['068]** disclose computerized analyzing system for piping network.

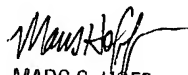
**Fukumoto ['144]** discloses piping system surveillance apparatus.

**Hamby et al. ['455]** disclose electromagnetic borehole flowmeter system.

**Contact information**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday from 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800



Art Unit: 2857

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Charioui

4/14/04